FIG. 1
(PRIOR ART)

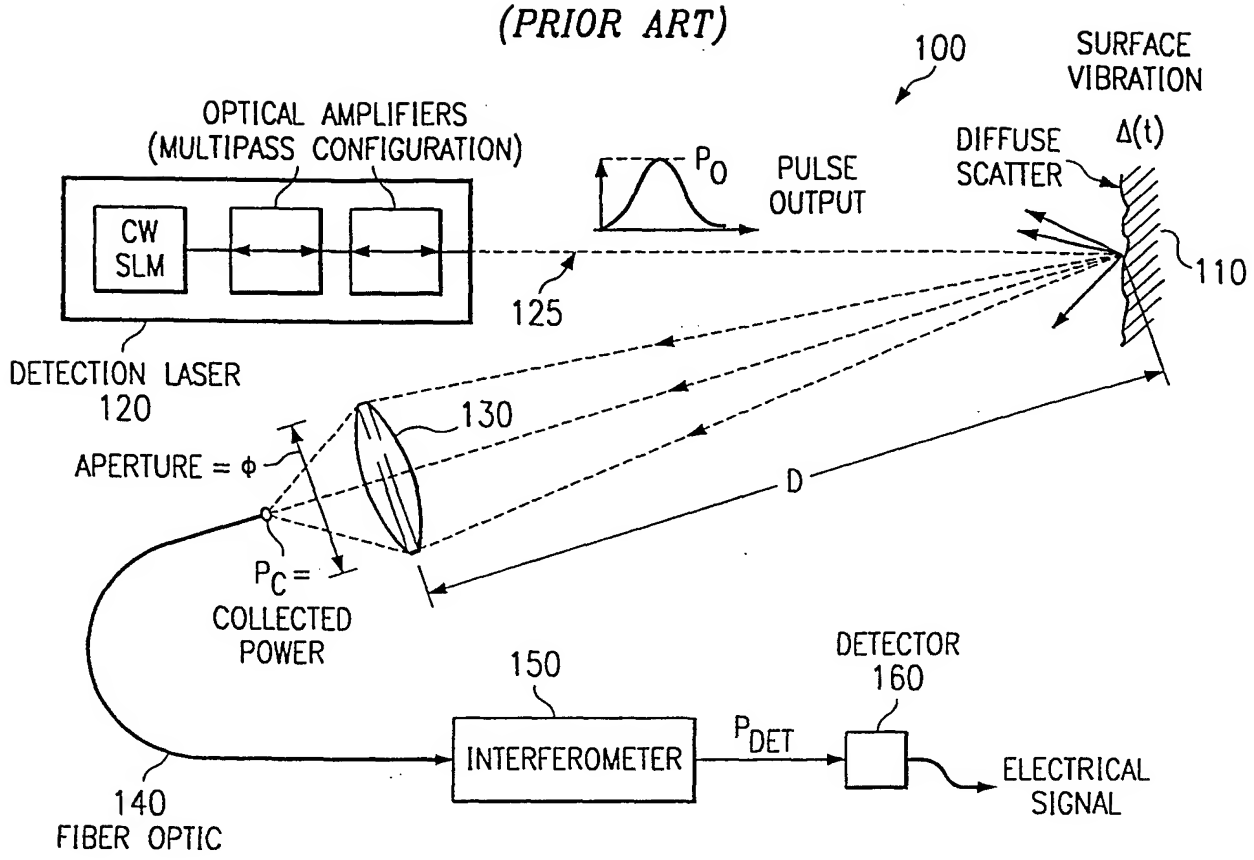
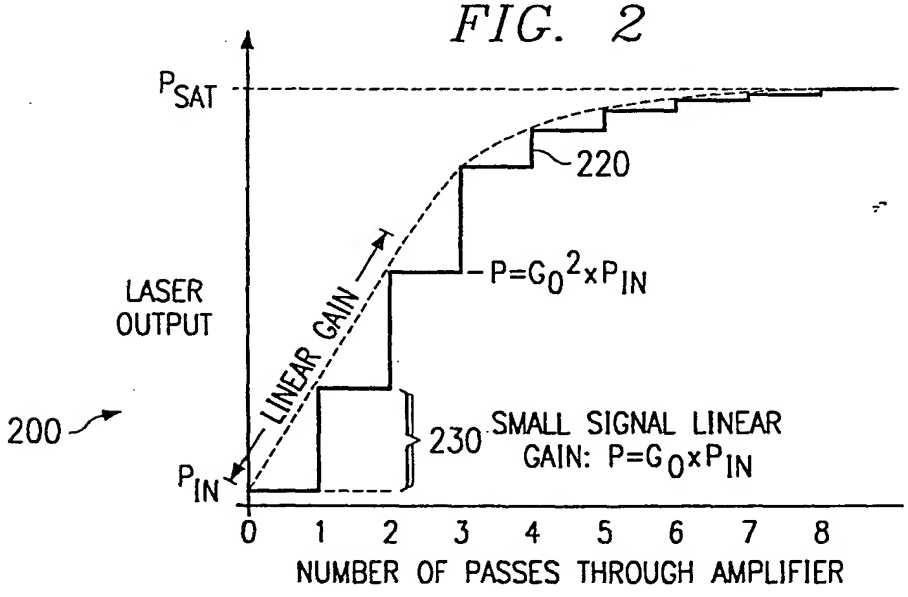


FIG. 2



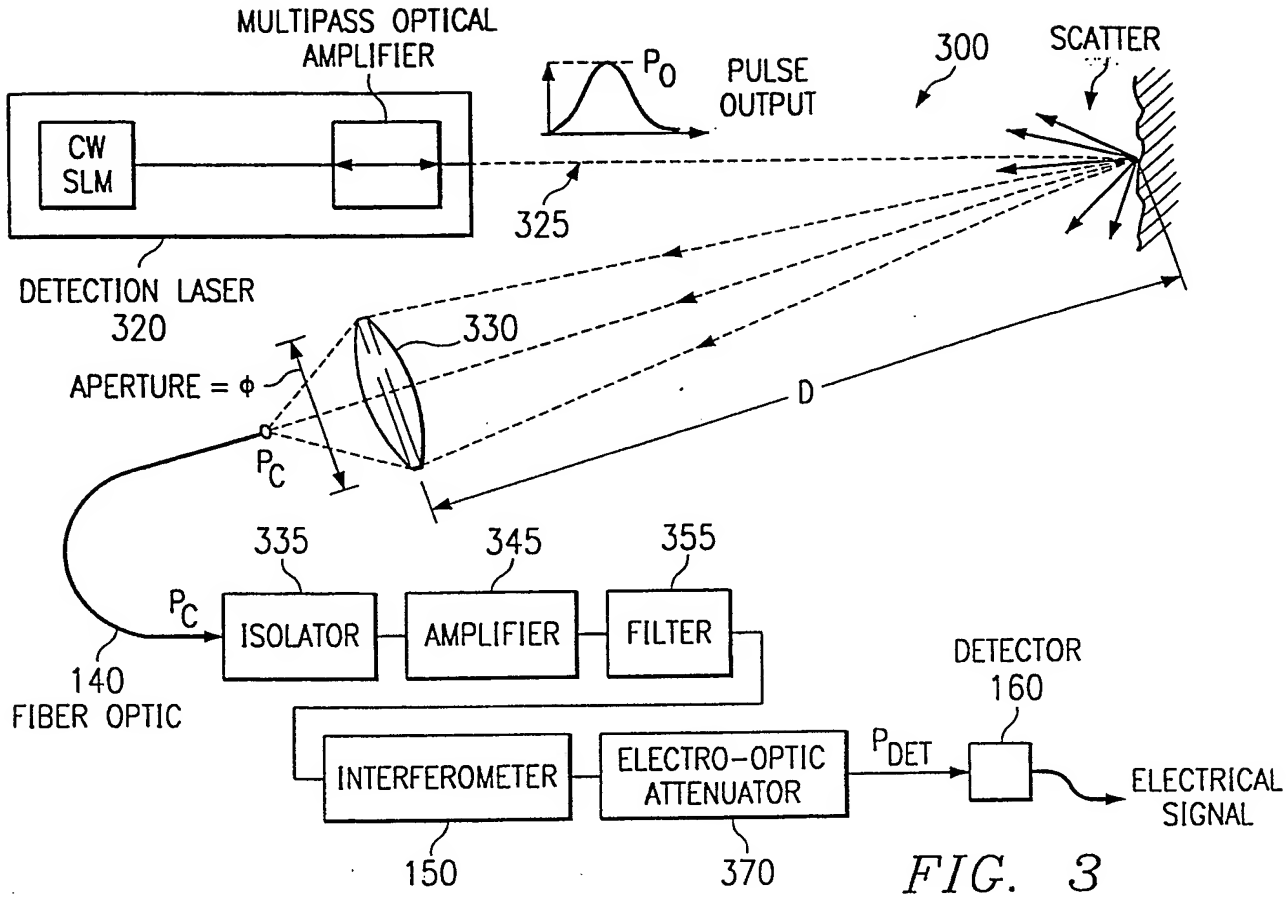

MULTIPASS OPTICAL AMPLIFIER
CW SLM
P_0
PULSE OUTPUT
300
SCATTER
325
DETECTION LASER 320
330
APERTURE = ϕ
D
P_C
335
345
355
ISOLATOR
AMPLIFIER
FILTER
140 FIBER OPTIC
DETECTOR 160
INTERFEROMETER
ELECTRO-OPTIC ATTENUATOR
P_{DET}
ELECTRICAL SIGNAL
150
370

FIG. 3

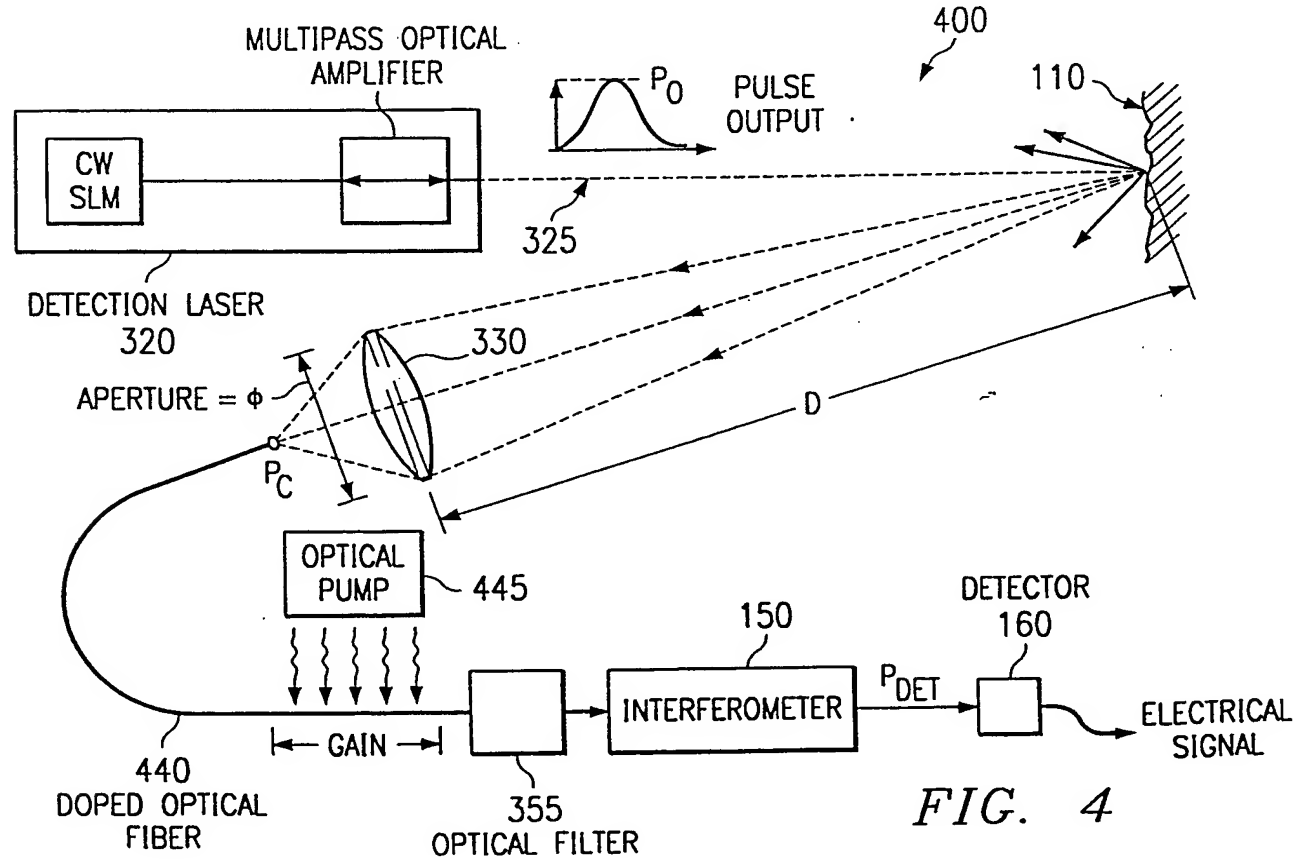

400
MULTIPASS OPTICAL AMPLIFIER
CW SLM
P_0
PULSE OUTPUT
110
325
DETECTION LASER 320
330
APERTURE = ϕ
D
P_C
OPTICAL PUMP
445
150
DETECTOR 160
INTERFEROMETER
P_{DET}
ELECTRICAL SIGNAL
GAIN
440 DOPED OPTICAL FIBER
355 OPTICAL FILTER

FIG. 4

FIG. 5

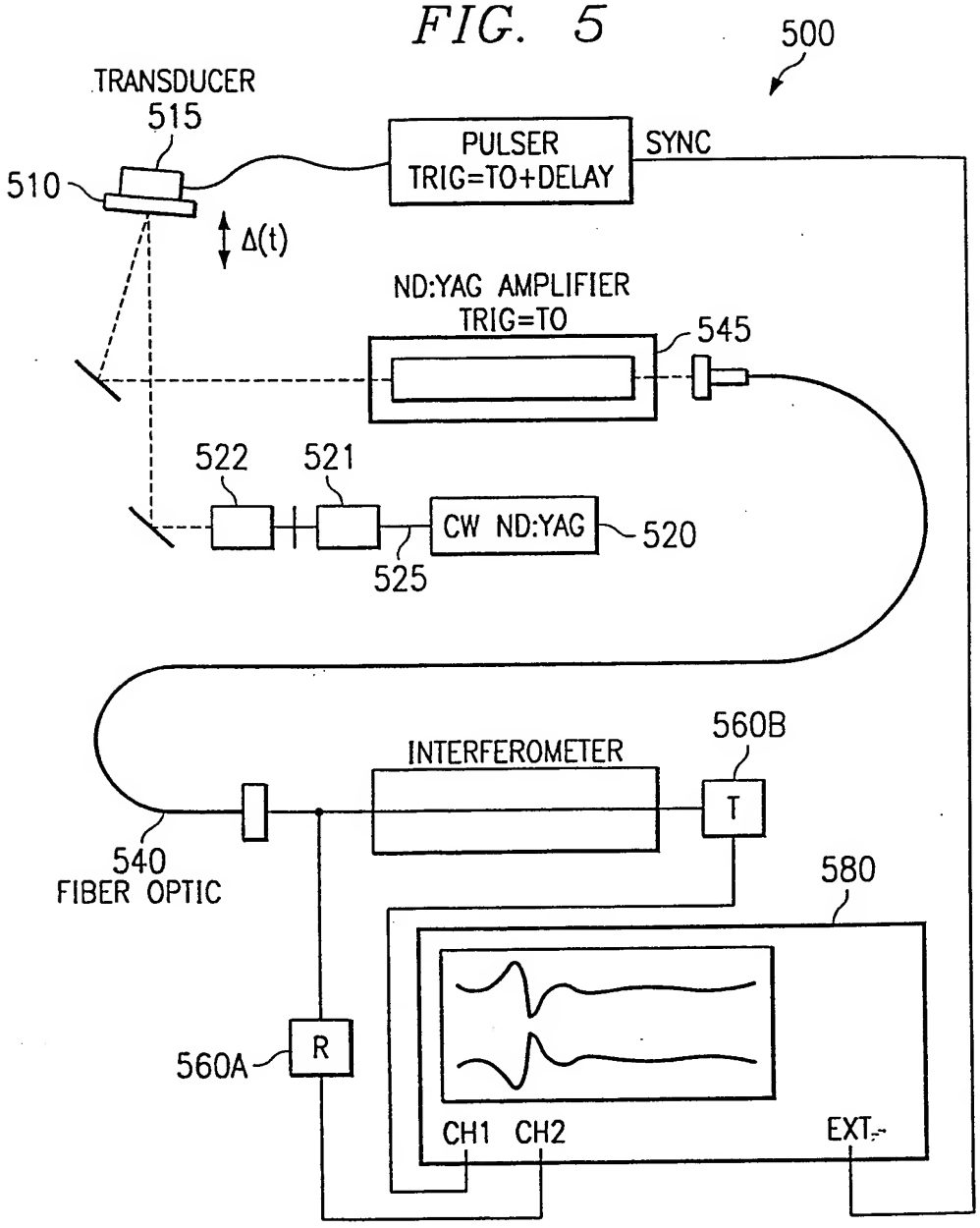
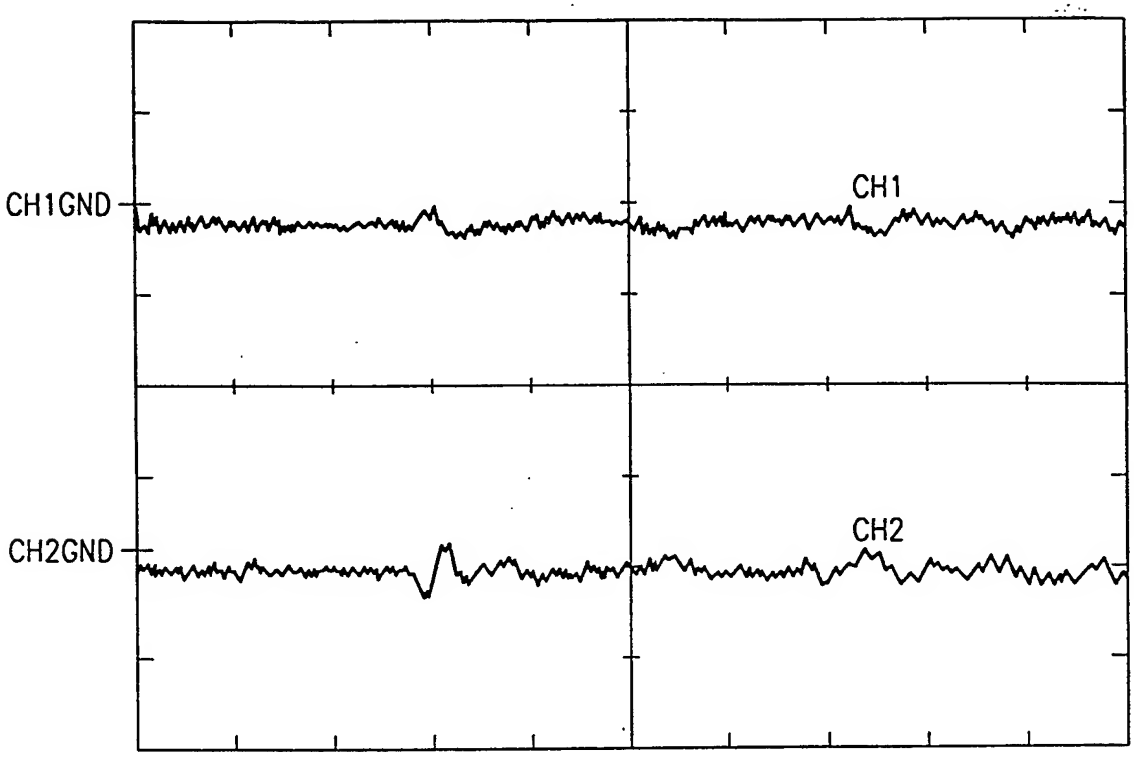
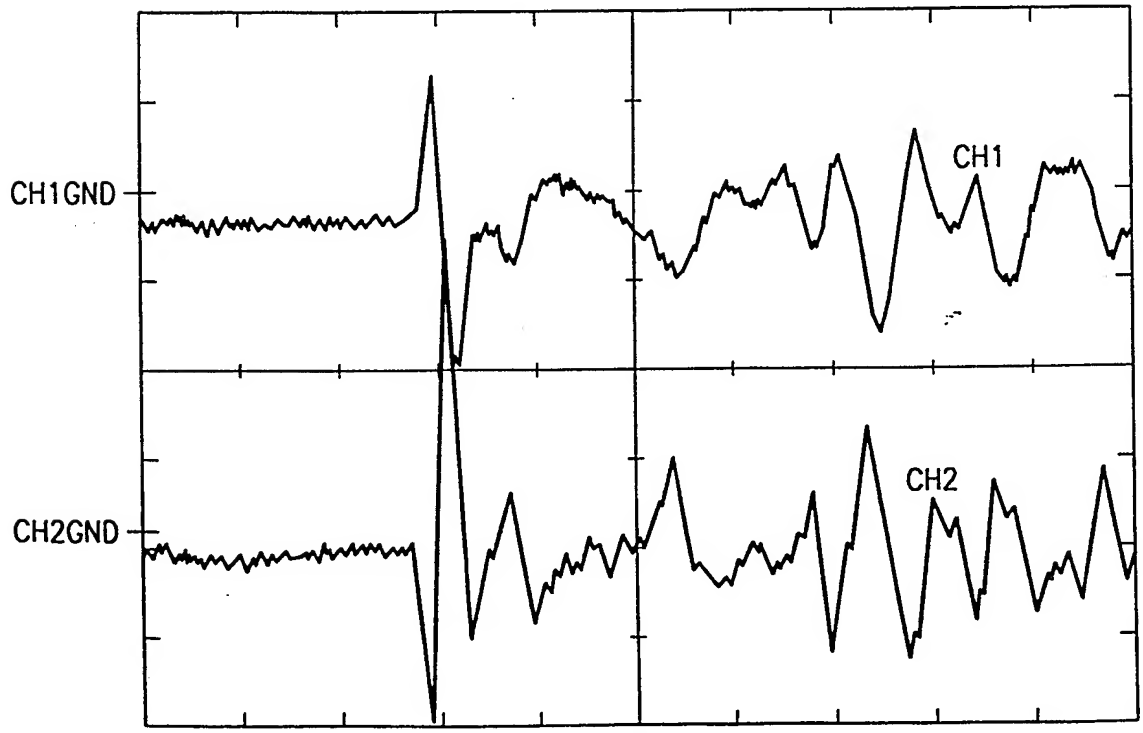

500
TRANSDUCER
515
510
PULSER
TRIG=TO+DELAY
SYNC
Δ(t)
ND:YAG AMPLIFIER
TRIG=TO
545
522
521
CW ND:YAG
520
525
560B
INTERFEROMETER
T
540
FIBER OPTIC
580
560A
R
CH1
CH2
EXT

FIG. 6



CH1 P-P=12.8mV

FIG. 7



CH1 P-P=108mV